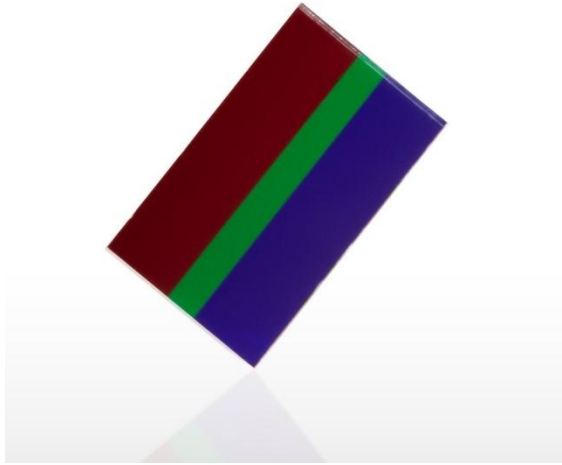


Photolithography Pattern Optics

Geometries as Small as 5 microns



Gapless Filter

DESCRIPTION

Reynard offers custom photolithography services in-house to create detailed patterned optics. Photolithography is a technique that uses light to produce small patterns over a substrate to protect selected areas of it during the etching or deposition process.

Our contact exposing technique can achieve geometries as small as 5 microns on substrates up to 18" in diameter utilizing a variety of thin film coating materials. Metallic or dielectric materials are selected based on the application's transparent, reflective, absorption and/or conductive opto-electrical requirements. In addition, patterns can be applied to most substrate materials, including plastic sheeting.

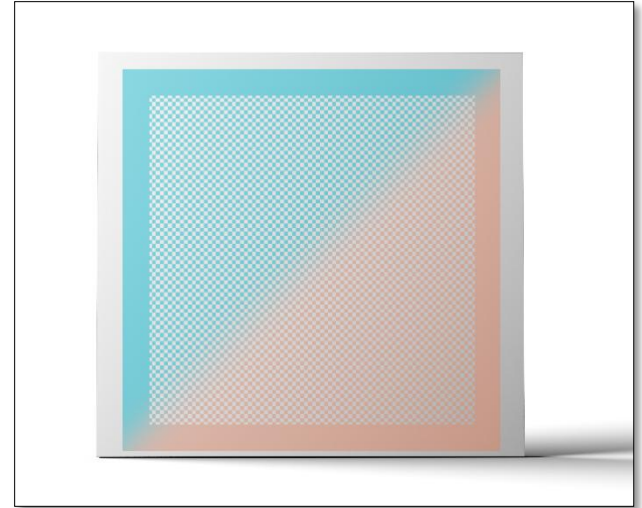
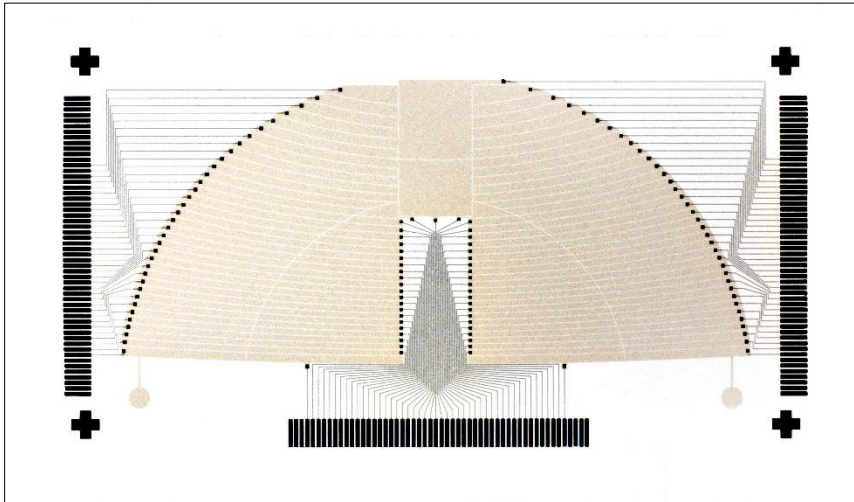
By customizing your pattern and thin-film coating needs, Reynard can realize the ideal optic for your application. All manufacturing is done in-house for improved quality, ease of communication and innovative customization.

GENERAL INFORMATION

- Established in 1984
- Custom built thin-film optical coating lab, diamond point turning department & optical fabrication facility
- Made in USA
- End-to-end design and development managed entirely in-house
- Build-to-print optical coating and fabrication
- From prototypes to large-scale production

APPLICATION EXAMPLES

- Alignment Test Patterns
- Heated Windows
- Wideband Beamsplitters
- Multi-Band Filters
- Patterned Filters
- Optical Pinholes & Slits
- Environmental Sensors
- Resolution Patterns
- EMI: Grids
- Gapless Filters
- Target and Reticles
- Polk Dot Beamsplitters
- Encoder Disks
- Bar Codes
- Fluorescence Imaging
- Scope Crosshairs
- Boresights
- Multi-Spectral Detector Filters



SPECIFICATIONS

Property	Value
Substrate Material:	Quartz, Ceramics, Certain Plastics, Sapphire, Crystals, and Chalcogenides
Size:	Up to 18" Diameter
Patterns:	Geometries as small as 5µm
Coating Types:	Transparent, Conductive, Metallic, Dielectric
Environmental:	MIL-C-48497A 3.4.1.1 – Adhesion 3.4.1.2 – Humidity 3.4.1.3 – Abrasion (moderate) 3.4.2.1 – Temperature Cryogenic cycling to 80K
Markets:	Commercial, Military, Automotive, Medical, Industrial, Laser, Telecommunications, Semiconductor

KEY CAPABILITIES

- Industry proven contact photolithography processes.
- 5µm and above geometry resolution.
- Multiple pattern stacking, alignment tolerance 25µm and above.
- Patterned optical coating thickness up to 7µm.
- Patterned photoresist thickness up to 100µm.
- Substrates as large as 18" in diameter.

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